

# **POWER PROJECTION OF AN ARMY CORPS BY C+75-ON TARGET OR WISHFUL THINKING?**

**A MONOGRAPH  
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## **ABSTRACT**

POWER PROJECTION OF AN ARMY CORPS BY C+75- ON TARGET OR WISHFUL THINKING? by Lieutenant Colonel Victor L. Nelson, USA, 42 pages

The U.S. Army's stated power projection strategy demands a corps of five divisions that is tailorable, sustainable, and with airborne vertical insertion capability. The lead brigade must be on the ground by C+4, the lead division by C+12. Two heavy divisions (sealifted) arrive from CONUS by C+30, with the mix of armored, mechanized, or air assault units determined by the supported CINC, and relying in part on a fully supported heavy combat brigade from prepositioned stocks afloat. The full corps (five divisions and a Corps Support Command) closes by C+75.

This goal was not met during the deployment to war in Saudi Arabia, Kuwait, and Iraq, beginning in August, 1991. That deployment took 205 days to close the force. However, since that war, steps have been taken to improve the United States strategic deployment capabilities through enhancement of the USTRANSCOMs strategic triad of airlift, sealift, and prepositioning assets, as well as through the Army Strategic Mobility Program (ASMP) improvement of deployment support infrastructure.

The increased and improved fleets of shipping and aircraft, and the improvements to infrastructure will greatly assist in power projection from CONUS; however, it is not enough for the Army to meet it's ASMP goal of deploying a heavy corps in 75 days. The best that can be done in the next 5 to 10 years is closure in 120 days given current levels of resourcing.

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## INTRODUCTION

The U.S. Army's stated power projection strategy demands a corps of five divisions that is tailorable, sustainable, and with airborne vertical insertion capability. The lead brigade must be on the ground by C+4, the lead division by C+12. Two heavy divisions (sealifted) arrive from CONUS by C+30 (armored, mechanized, air assault (mix by CINC)). The full corps (five divisions and a Corps Support Command (COSCOM) closes by C+75. A fully supported heavy combat brigade, with sufficient supplies to sustain the corps until lines of communication are established, must be prepositioned afloat.<sup>1</sup>

This goal was not met during the deployment to Saudi Arabia beginning in August, 1991. However, since that war, steps have been taken to improve the United States strategic deployment capabilities through enhancement of the USTRANSCOMs strategic triad of airlift, sealift, and prepositioning assets, as well as through the Army Strategic Mobility Programs (ASMP) improvement of deployment support infrastructure. The question is whether these enhancements have enabled the Army to reach it's goal, or if the goal is [still] unattainable, given the magnitude of the undertaking, assets available, and the theater(s) being deployed to.

Despite the stated goal of a corps in 75 days, and enhancements to the means to accomplish the task, it remains problematic whether the Army can reach it's goal. While the increased fleets of shipping and aircraft, and improved infrastructure will greatly assist in mission accomplishment, there are nagging problems with the enablers of these fleets that may act to cause delays in the deployment of the army corps. These enablers

include installation and national capacities to support rapid deployments, otherwise known as the “fort to port” system. In particular the limitations of installation aerial port of embarkation and railhead capacities represents a significant bottleneck to deploying forces that is not completely offset by use of nearby commercial facilities. As well, the “port to port” system has limitations that will tend to slow power projection such as port of embarkation capacities, labor and equipment availability, international canal, e.g. Panama Canal, limitations, and, importantly, port of debarkation limitations. Moreover, the “port to tactical assembly area” system, emerging in doctrine as Reception, Staging, Onward Movement, and Integration (RSOI) has serious limitations given the capacities to conduct RSOI in either Major Theater War region.

Despite the declared objectives of U.S. military strategy, as espoused in the National Military Strategy (NMS), and, the National Security Strategy (NSS), to engage in two nearly simultaneous Major Theater Wars, the United States likely is not in a position to meet those objectives. In fact, it remains problematic whether the Army’s Strategic Mobility Program requirements can even be met for the first surge to engage enemy forces in the first of two major theater wars.

The United States Army is developing doctrine that breaks the deployment sequence down into several phases. They are 1) Predeployment Activities, 2) Deployment From Fort(s) to Port(s), 3) Movement From Port(s) to Port(s), and, in-theater Reception, Staging, Onward Movement, and Integration (RSOI). Reviewing each of these in turn will reveal deficiencies that will cause the disruption of the Army Strategic Mobility Program’s objectives.<sup>2</sup>

## **STRATEGIC REQUIREMENTS**

The United States, driven to review its National Security Strategy, and, as it relates to the NSS, its National Military Strategy, in the wake of the [still] changing nature of threats to the vital national interests of the United States, continues to struggle to redefine defense requirements. Four separate reviews have been conducted within the past seven years, i.e. the Base Force, the Bottom Up Review (BUR), the Commission on Roles and Missions, and the Quadrennial Defense Review (QDR). From these reviews was developed the requirement for the United States conventional military forces to have "the capability, in concert with regional allies, to fight and decisively win two Major Regional Contingencies (now called Major Theater Wars) that occur nearly simultaneously."<sup>3</sup>

The National Military Strategy, dated October, 1997 states

"As a global power with worldwide interests, it is imperative that the United States be able to deter and defeat nearly simultaneous, large-scale, cross border aggression in two distant theaters in overlapping time frames, preferably in concert with regional allies. For the time being, we face this challenge in the Arabian Gulf region and in Northeast Asia. The capability to fight two major theater wars initiated in rapid succession is of critical importance as it helps deter opportunism, promote stability, and provide the depth and flexibility to deal with unanticipated challenges."<sup>4</sup>

The National Security Strategy, May, 1997, states "At the high end of responding to crises is fighting and winning major theater wars. This mission will remain the ultimate test of our Total Force---our active and reserve military components---and one in which it must always succeed. For the foreseeable future, the United States, in concert with regional allies, must remain able to deter credibly and defeat large-scale, cross-border aggression in two distant theaters in overlapping time frames."<sup>5</sup>

To meet these national-level objectives the U.S. Army's stated power projection strategy, defined by the Army Strategic Mobility Program Objectives, demands a corps of five divisions that is tailororable, sustainable, and with airborne vertical insertion capability. The lead brigade must be on the ground by C+4, the lead division by C+12. Two heavy divisions (sealifted) arrive from CONUS by C+30 (armored, mechanized, air assault [mix by CINC]). The full corps (five divisions and a Corps Support Command (COSCOM) closes by C+75. A fully supported heavy combat brigade, with sufficient supplies to sustain the corps until lines of communication are established, must be prepositioned afloat. Can this aggressive schedule be met given the enhanced sealift, airlift, and infrastructure programs currently underway?

The strategy of being able to win two nearly simultaneous major theater wars was first discussed in the Bottom-Up Review (BUR), published in September, 1993. The BUR was the result of a comprehensive study conducted by the Department of Defense (DOD). The BUR examined all major elements of defense planning: formulation of strategy, construction of force structure, weapon system modernization, and reconfiguring DOD infrastructure. The BUR concluded that the U.S. could in fact win two "nearly simultaneous" major theater wars, with "nearly simultaneous" being defined as beginning at least 42 days apart.<sup>6</sup>

The strategy was based on a "win-hold-win" formula in three phases: phase one commits the bulk of U.S. combat power to the first major theater war quickly and decisively in order to defeat enemy forces; phase two commits, at least 42 days later, a smaller combat force to hold in a second major theater war; and, phase three commits

forces from the first major theater war to the second theater in order to engage and decisively defeat the enemy. The reasoning behind “win-hold-win” versus “win-win” is simply a recognition that the country does not possess enough strategic lift, nor can it afford to acquire enough strategic lift, to contemplate a simultaneous “win-win” strategy.

The problem relates to the ways and means available to meet the ASMP ends. The ASMP studies of power projection base infrastructure reveals that the chosen facilities cannot support the deployment requirements. Additionally, it is questionable whether the strategic mobility triad of USTRANSCOMs Military Sealift Command, Air Mobility Command, and Army Prepositioned Stocks can meet the time requirements.

This study will review the findings of Military Traffic Management Commands Army Strategic Mobility Plan Studies of power projection platforms, the capabilities of the various airports and seaports that would be used to project the force, the transportation assets available from Air Mobility Command, Military Sealift Command/Maritime Administration, the Military Traffic Management Commands Defense Readiness Industrial Fleet and seaport capabilities in order to answer the question of whether the Army Strategic Mobility Program goals for the first of two major theater wars can be reached.

### **PLANNING AND PREPARATION FOR DEPLOYMENT**

Commanders in Chief (CINCs) of unified commands develop operation plans (OPLANs) and Time-Phased Force and Deployment Data (TPFDD). These data identify units and sustainment to support each OPLAN and provide information concerning routing from origin to destination.<sup>7</sup>

For contingencies smaller than a Major Theater War, there are a host of Flexible Deterrent Options (FDOs) and Force Enhancement(s) (FEs) that cover possible contingencies and their branches and sequels. These FDOs and FE's can come with very little notification and, because of the expected response can challenge the deployment system to respond. For example, the deployment of a Patriot Air Defense Artillery Battalion to Korea in May, 1994, was a part of an FDO for that theater's basic Operations Plan, made, in part, to signal U.S. resolve to counter North Korean weapons of mass destruction such as that countries SCUD-series missiles that can loft chemical and biological warheads. Force Enhancements are "packages" of forces that bolster critical combat support and combat service support echelons, often preparatory to the deployment of an FDO or OPLAN TPFDD. For example, the deployment of over 1,000 augmentees to the United States Forces Korea (USFK) in June, 1995 was part of a Force Enhancement package.

These operational plans, force enhancements, and flexible deterrent options, as part of the deliberate planning process, however, only lay out a deployment timeline from port to port, leaving the RSO&I in-theater piece to be planned and executed by the CINC. Analysis revealed that problems arose, not only when forces could not reach the theater quickly enough, but also when forces arrived at a rate that exceeded the capacity of the theater infrastructure to receive them, or when the integration of force elements into combat-ready units was delayed by the inability to track and combine personnel and equipment as they moved to their final destination, or when procedures were not in place to integrate these forces into the theater force.<sup>8</sup>

Even though the Army has well-thought-out doctrine for preparing for deployment, and most installations, especially the Power Projection Platforms, have Readiness Standard Operating Procedures that define the execution of deployments using N-hour sequences, the system can break down quickly if the system is asked to respond rapidly to change, or, if commanders make unilateral decisions that change the flow of personnel and equipment after deployment assets have been flow planned and the assets themselves are in movement.

There are a plethora of After Action Reports dealing with what happens, however well intentioned, when changes to the deployment system lead to unforeseen consequences during deployments. XVIII Airborne Corps is the Army's so-called contingency corps for rapid response to crisis that call for the introduction of ground forces. The 82nd Airborne Division, along with the Army Ranger Battalions, are a key element in the Army Strategic Mobility Program deployment objectives which demand a vertical insertion capability, i.e. an assault parachute drop. To practice rapid deployment, the Corps conducts an aggressive Emergency Deployment Readiness Exercise schedule of all units in the Corps. The Corps RSOP calls for the Division Ready Brigade to have begun loading and deploying, i.e. first aircraft takes off or "wheels up" not later than N+18, or, in other words, 18 hours after initial alert. In general, this standard is routinely met.

A good example is the deployment of the 82nd Airborne Division to Desert Shield. The first Army unit to deploy was the Division Ready Brigade One (DRB 1). The first aircraft with unit equipment and personnel left on the afternoon of 8 August. The airflow began with fits and starts while the unit prepared and CENTCOM decided

the allocation of airlift to the unit. This allocation changed repeatedly in the first week of the deployment. Initially, AMC (then called MAC), planned to flow two airlifters an hour into Pope AFB to support the 82nd. At 1700 hours local time, this arrival rate commenced. In the next few hours, the Army had increasing trouble generating cargo fast enough to keep up with the arriving aircraft, and the aircraft began to back up on the ramp. After three days the flow had to be changed to one airlifter an hour because the deploying unit could not sustain a faster flow. Additional problems arose because the type aircraft in the flow was unknown, so load plans had to be regenerated as the type was discovered, which can be a time consuming process.<sup>9</sup>

Additionally, there was little discipline in following the TPFDD since it changed so frequently, and, in fact, in the personal experience of the author, elements of XVIII Airborne Corps 1st Corps Support Command, were reduced to sending personnel elements into theater by happenstance, the instruction being to be "on call within 24 hours to fill aircraft seats." As described above, the 82nd was having trouble filling the aircraft, so 1st COSCOM developed an on-call system to take advantage of "opportunity lift" to flow support forces into theater. For equipment deployment, "just drive to the port" was the instruction, after obtaining convoy clearance and configuring equipment for deployment.<sup>10</sup>

One could be excused for thinking that military forces with a primary mission essential task of deploying, and installations that routinely support deployments, would have little problem with pre-deployment activities and preparation to deploy. However,

several factors militate against the maintenance of deployment skills. First and foremost is the environment of the constrained budget. There is much less money available for funding the development of hands-on deployment skills and disallows the deployment system to work as a complete system, i.e. from alert to actual loading on planes or ships on a large enough scale to stress the system. Furthermore, high turbulence of personnel exacerbates the problem of lack of funding not only because of the turmoil in the unit but also for qualifications and certifications of unit personnel that requires budgeted training, e.g. air load planning and hazardous material certification. Without trained cadre for deployment, a unit cannot easily meet it's deployment responsibilities. Additionally, high operational tempo among units gives them less time to train to standard as they are "exercise rich and training poor."

Finally, short fuse unit deployments are fraught with the requirement to make force structure decisions extremely early in the process in order to permit USTRANSCOM to activate and station the transporation assets. This places a severe strain on deploying units to make comprehensive deployment decisions based on planning data that often times is incomplete or lacking in detail. An assessment of this problem suggests that it is unlikely to improve as evidenced by the recent deployment to Kuwait where one unit over estimated it's personnel deployment number by 3,000 personnel, although USTRANSCOM contracted for and paid for that amount of seating.

## **FORT TO PORT**

CG FORSCOM, in the wake of Desert Shield/Desert Storm, designated 15 Army posts as Power Projection Platforms. These platforms conform to the home stations for the Army's primary above-the-line combat, combat support, and combat service support units. They are: Fort Lewis (3rd Bde, 2nd ID; Fort Carson (4th ID, 3rd ACR); Fort Bliss (11th ADA Bde [CENTCOM], 31st ADA Bde [III Corps], 35th ADA Bde [PACOM], 108th ADA Bde [XVIII Corps]; Fort Sill [III Corps Artillery]; Fort Hood [III Corps]; Fort Polk [2 ACR[L]; Fort Benning [3rd Bde]; Fort Stewart [3rd ID]; Fort Bragg [XVIII Corps]; Fort Eustis [7th Group]; Fort Campbell [101 AASLT Div]; Fort Dix [RC Mob Site]; Fort Drum [10th ID]; Fort McCoy [RC Mob Site]; Fort Riley [1st AD, 1st ID (-)].<sup>11</sup>

Additionally, there is V Corps and two divisions in Germany, 1st Armored Division (-) and 1st Infantry Division (-), that would deploy in support of Major Theater Wars or lesser contingencies, that would use the port of Rotterdam, the Netherlands and Bremerhaven, Germany to deploy from bases in Germany. Although these have not been formally designated as power projection platforms, nor does Europe receive Army Strategic Mobility Program funds. Deployment from Europe is more challenging than from the United States given the forces there maintain a different focus than power projection. However, the example of the deployment of VII Corps for Operation Desert Shield/Desert Storm demonstrated that while it may take longer to reach the ports in general, deployments can be accomplished successfully. Longer because of the more complex political environment (multiple national boundaries have to be crossed and this invokes each nation's version of plans, policies, and procedures for

the movement of such things as military equipment, and hazardous material such as ammunition). Moreover, the continuing peacekeeping mission in Bosnia-Herzegovina is a requirement that could cause deployment delays out of theater as V Corps units sought to disengage and deploy elsewhere.

Army Strategic Mobility Program (ASMP) studies at these facilities revealed that they cannot meet the ASMP deployment guidelines. In general, all the power projection platforms have inadequacies with some or all of the facilities required for expeditious deployment, i.e. railheads, container loading/handling facilities, staging/assembling, and airheads. A review of the installations that would be involved in the power projection of the first 5 and 1/3 division illustrates the problems still inherent with infrastructure.

Army Strategic Mobility Program (ASMP) studies at Fort Hood, Texas, Fort Campbell, Kentucky, Fort Stewart, Georgia, Fort Bragg, North Carolina, and Fort Carson, Colorado were conducted from 1992 to 1994. The purpose of the study was to determine the installations ability to meet furnished deployment onload requirements with existing facilities, and if shortfalls exist, to determine needed improvements to negate these deficiencies. The studies, relying on on-the-ground surveys as well as computer simulations of deployments from existing facilities, revealed significant shortfalls in these primary power projection platform installations' abilities to support the ASMP deployment timelines.

At Fort Hood, Texas, a summary of findings suggested that the existing railhead cannot support a worst case deployment scenario, i.e. 2,203 railcars and 650 containers over 6 days (368 railcars per day, 109 containers per day). The existing rail system at Fort Hood, Texas, after completion of current ongoing major upgrades of the on-post rail

system still cannot meet the outload requirements in accordance with the ASMP deployment criteria. Additionally, Fort Hood does not have an adequate permanent area with hardstand for staging container handling operations and there is a shortfall in non-deployable container handling equipment.<sup>12</sup>

At Fort Campbell, Kentucky, the study, conducted from 13 April through 17 April, 1992, found that the existing rail system at Fort Campbell cannot support ASMP outload requirements. Additional on-post rail facilities, an off-post passing track and a direct connector to the CSX rail line are needed. While adequate numbers of chassis are currently assigned to the installation, there is a shortfall of 221 containers as well as tractors to haul them, and a dedicated hardstand area and support facilities are required for centralized container handling. While the installation has two non-deployable rough terrain container handlers on hand, three additional handlers are required to meet the outload requirement.<sup>13</sup>

At Fort Bragg, North Carolina, assuming that the airborne division will deploy by aircraft, the current facilities are insufficient to support the ASMP deployment criteria which calls for the lead Division Ready Brigade (DRB) of the airborne division to close by C+4 and the full division to close by C+12. Staging areas for airland vehicles and equipment are insufficient, as are high docks for 463L pallets and vehicles and equipment rigged for airdrop. Passenger sheds for the simultaneous deployment of one brigade are too small. Additionally, container handling facilities, while identified are little more than open fields which are difficult to work containers in (the normal requirement is for large hardtopped staging areas), especially in wet weather. While this

does not impact the deployment of the airborne division by air, it would impact the deployment of follow-on echelons of corps troops. Ironically, Fort Bragg's railhead can meet ASMP deployment guidelines, which is useful for the follow-on echelons but doesn't support the deployment of the airborne division, which is a key component to the ASMP deployment guidelines.<sup>14</sup>

Fort Stewart, Georgia's air deployment facility at Hunter Army Airfield, Georgia lacks the facilities required to meet the ASMP deployment timelines. While the Saber Hall facility can support the Immediate Ready Company deployment, the Departure/Arrival Airfield Control Group facility is inadequate to support the deployment of the division, lacking passenger processing facilities, high docks, and vehicle and equipment processing facilities such as scales, fuel/defuel and purge capabilities and wash racks. The deployment plans calls for deployment of the Immediate Ready Company (IRC) at N+18 on 8 C-5 aircraft every 20 minutes from Saber Hall. The Division Ready Force (DRF) "fly away package" deploys on 38 C-5 aircraft within two days, commencing at N+48 hours from the Departure/Arrival Airfield Control Group (D/AACG) facility. Simultaneously, the division deploys 1,500 personnel from the D/AACG.<sup>15</sup>

The deployment procedures of the various installations must also be addressed. For example, Fort Bragg's Readiness Standard Operation Procedure (RSOP) is a well laid out and oft-practised system for deployment. Indeed, in the year prior to Desert Shield/Desert Storm, the XVIII Airborne Corps Emergency Deployment Readiness Exercise (EDRE) Committee planned and executed 26 EDREs involving various Corps units at Fort Bragg and other installations. In general, the EDREs were well executed

battalion-size plus/minus exercises that provided valuable training to warfighters and logisticians alike; however, what they did not do is stress the installations ability to handle a greater than battalion-size deployment. Brigade and larger deployments ran into trouble because of inadequate space to convey the troops, vehicles, and equipment to the waiting aircraft in an organized fashion as is pointed out in the Military Traffic Management Command Transporation Engineering Agency study above. Inadequate facilities beget congestion and confusion and leads to extended deployment timelines.<sup>16</sup>

Can installation infrastructure support power projection is the key assessment. Currently the answer is no; however, the Army Strategic Mobility Program investment from 1997 to 2001 suggests there will be significant improvement if the funding continues. A total of \$417 million dollars will be spent on 13 power projection platforms to upgrade their status in recognition that rapid outloading is the key to rapid projection. Although the installations are upgrading their capabilities to rapidly deploy, there are several other weak links in the system that remain problem areas for the future.

#### **FORT TO PORT/HIGHWAY & RAIL**

Desert Shield/Desert Storm provided the largest military deployment to date to ascertain problems with large scale military movement in the United States. Truck and rail companies in the United States responded "patriotically"and worked together to ensure enough trucks and railcars were made available to deploy the military. However, industry experts drew conclusions for the future that foretell of problems.

Union Pacific President and CEO, Dick Davidson, characterized the Desert

Shield deployment as "a close fit." He further predicted greater problems in the future given the drawdown of military forces and fewer exercises to test mobilization will lead to commercial rail companies having less incentive to maintain their inventories of low revenue-producing cars and other equipment specially constructed for the military.

Interestingly, he added that had the national economy been stronger, the rail industry might not have been able to meet the military requirements for Desert Shield.<sup>17</sup>

Indeed, the third largest seaport in the world, the twin-port of Los Angeles/Long Beach, California, and one that would figure prominently for the deployment of forces to either Major Theater War region, is suffering significant problems in the booming economy of the 90's and the growing volume of trade. Ports are running short of rolling stock, cargoes go missing, trains are colliding and some shipments are taking up to four times longer to reach destinations. At one point more than 10,000 railcars were idled due to lack of engines and engineers. There is a serious shortage of skilled labor of dockworkers and truck drivers.<sup>18</sup>

Rail infrastructure problems, caused by continually deferred maintenance of spurs and facilities led to extended deployment timelines at several key installations such as Fort Bliss, Texas, Fort Campbell, Kentucky, and Fort Stewart, Georgia. In 1986, the Army designated Forces Command as its executive agent for managing rail facility repair and rehabilitation. Through its Rail Maintenance Program, the command planned an expenditure of \$140 million through 1994; however, by 1991 only 4 projects had been started out of 31 identified, with one (at Fort Carson, Colorado) completed. Redirection of funds, changing guidance, and other problems caused significant delays.<sup>19</sup>

## **PORT TO PORT/SEALIFT**

Any conceivable large-scale contingency, especially those involving major theater wars, will rely on strategic sealift to get into the theater. During Desert Shield/Desert Storm, over 90 percent of the equipment and vehicles destined for southwest asia went by sea.

Do we have enough ships and of the right kind? The Denton Commission study, conducted in 1987, concludes that the total ship capability available to move unit equipment composed of all usable ships in the United States flag fleet (assumed to be readily available), is slightly insufficient even under the "best case" scenario. Hence, Strategic Sealift is insufficient to allow military planners to conclude with confidence that the projection of forces and sustainment (5+ division equivalents) can be projected to Southwest Asia in a timely manner (D+30-40), even in the gross terms depicted in this study.<sup>20</sup>

The Denton Report was reasonably comprehensive but somewhat dated given it's publication in 1987. Is the current status of shipping improved in ten years?

Currently there are 25 ships in the Prepositioned Forces. Thirteen Maritime Preposition Ships (MPS) are loaded with Marine Corps Unit equipment and supplies. Twelve Afloat Preposition Force (APF) ships are loaded with Army and Air Force support equipment and supplies, along with the deployable Navy Field Hospital. Each of the 13 MPS, organized in 3 squadrons, carry Marine Corps equipment and supplies. MPS One consists of four ships deployed in the Atlantic. MPS Two is composed of five ships in the Indian Ocean at Diego Garcia. MPS Three is composed of four ships in the

Guam/Saipan area of the Western Pacific. Eleven APF ships operate out of Diego Garcia. One APF ship operates in the Mediterranean. The prepositioned ships can get underway in 12-24 hours. Each ship is manned by two full civilian crews that rotate every four months. Each MPS Squadron stores and maintains the unit equipment and 30 days of supply for a Marine Expeditionary Brigade (MEB) of approximately 16,500 troops. They can respond to contingencies that do not require forced entry. Once discharged the MPS vessels are available for servicing strategic sealift surge requirements.<sup>21</sup>

Desert Shield saw MPS Two and a MEB (7th Marine MEB) under OPCON to COMUSMARCENT in 17 days from alert (25 Aug 90). MPS Three matched up with 1st MEB, 3rd Marine Air Wing (MAW) in 25 days (2 Sep 90). MPS released to common-user requirements as early as 27 Aug 90 (19 days after sailing to Gulf) Nine of the twelve APS ships at Diego Garcia departed on 9 Aug 90 in 15 minute intervals (AMERICAN COMORANT, AMERICAN KESTRAL, AUSTRAL RAINBOW, OVERSEAS ALICE, SEALIFT PACIFIC, GREEN HARBOR, GREEN ISLAND, SANTA VICTORIA, AND NOBLE STAR). The ADVANTAGE sailed from the Med to the Red Sea. The tankers OVERSEAS ALICE and SEALIFT PACIFIC began conducting underway fuel replenishment in the Gulf of Oman and Red Sea respectively. The other prepo tankers, OVERSEAS VIVIAN and OVERSEAS VALDEZ were already at sea and sailed for Bahrain to conduct ops in the north Arabian Sea. Phase II of the deployment brought MPS One to move on 14 Nov 90 to marry up with 6th MEB. The MPS Two was docked and unloading 7th MEB a full day before the first FSS departed Savannah with elements of the 24th Div.<sup>22</sup>

MSCs eight ship squadron of Fast Sealift Ships, former US flag containerships, are capable of 33 knots (normal sustained cruising speed of 27 knots). Referred to as SL-7s and manufactured in European shipyards for SeaLand Services, the price of oil after the '72 Arab oil embargo made them uneconomical to operate. The vessels were sold to MSC in the early 80's and converted to roll-on-rolloff capability for \$105 million per ship. Maintained in a reduced operating status, the FSSs can activate in 96 hours. Together, the 8 FSS can provide [almost] a one-time lift of an entire US Army armored or mech division and it's combat support and combat service support slice. As a point of reference, the same requirement by airlift would use 2,100 C-141 and C-5 sorties.<sup>23</sup>

In addition to the Fast Sealift Ships, in the wake of Desert Storm, the Army Strategic Mobility Program called for similar vessels. The DOD Mobility Requirements Study identified a shortfall of 2 million square feet in prepositioned combat and combat support equipment. It identified a shortfall of 3 million square feet for surge sealift to carry combat and combat support equipment from the United States to meet selected conflict/contingency requirements, as set forth in the study. As a result of these findings, the DOD established a program to procure 19 notional large, medium-speed RORO (LMSR) ships. Five of the 19 LMSRs will be civilian cargo vessels converted to LMSR configuration. The remaining 14 will be new construction LMSRs. The conversions are to be completed by the end of 1995. The remaining new construction LMSRs are scheduled to be completed between 1998 and 2001. Current Plans are for eight of the LMSRs to be pre-positioned overseas, with the remaining eleven LMSRs maintained in CONUS, to meet surge requirements.<sup>24</sup>

When completed, the LMSR conversions will have 324,000 square feet available and the LMSR new constructions will be capable of 390,000 square feet available. After applying the traditional 25 percent broken stow factor (broken stow factor relates to the available space on a vessel after considering amount of space used in lashing, blocking, bracing, unusual loads, and special requirements), the LMSRs, then can carry administratively 243,000 and 292,500 square feet respectively, and a grand total of 4,432,500, just short of the MRS requirement of 5,000,000 square feet.

Additionally, there are 116 dry cargo vessels maintained in the National Defense Reserve Fleet (NDRF) of which 78 are part of the Ready Reserve Force (RRF). The RRF maintains ships in heightened states of readiness with the capability to deploy in 4, 5, 10, 20, or 30 days. These militarily useful ships would be activated and make up the bulk of deployment shipping following the surge of the “fast deployers” such as the FSS and LMSR class.<sup>25</sup>

While power projection from CONUS of more than a brigade’s worth of personnel and equipment can quickly fall behind AMSP requirements, and fail to meet the Army objectives, Army Prepositioned Forces, both afloat and in-theater give important capabilities to CINCs in the Major Theater War areas.

As was demonstrated during Operation Intrinsic Action in Kuwait, in 1996, selected heavy brigade personnel [only] can be airlifted from a power projection platform to a Major Theater War area, in this case, Southwest Asia, fall in on the prepositioned heavy brigade equipment at Doha, Kuwait, and reach Tactical Assembly Areas within 96 hours. As a Flexible Deterrent Option requiring Army ground forces, this is a superb initial capability in power projection.<sup>26</sup>

Although still building it's capability in Korea as Army Prepositioned Force-Four, and, as yet, untested by a deployment, the APF-4, located in Waegwon, Korea is expected to have similar deployment timelines associated with it.

Additionally, Army Prepositioned Force-Three equipment, afloat on 11 vessels and stationed at Diego Garcia, can reach Dhahran, Saudi Arabia, discharge and marry up with a flown in Brigade and reach the Tactical Assembly area in Kuwait in 15 days.<sup>27</sup> With prepositioned forces in both theaters then, a CINC can establish an Army heavy brigade force within four days, augmenting with an additional brigade in fifteen days. Added to this are the United States Marine Corps Maritime Prepositioned Squadrons (MPS), which give the CINC an additional brigade of Marines in either theater with similar deployment times to the Army.<sup>28</sup>

### **PORt TO PORt/PORT OF EMBARKATION**

The number of ships needed to load a mechanized infantry brigade depends on the ship mix selected. The best ship mix would require Three FSS vessels and one CAPE H RORO ship. Based on the assumption 2 days are required to load a ship, a brigade can onload within the 6-day ASMP requirement. The Port of Beaumont, which is Fort Hoods primary power projection platform, has two berths compatible with an FSS; therefore, a brigade can onload in about 6 days, given the time to load and move the ships in and out of the berths.<sup>29</sup>

For a mechanized infantry division, the best ship mix would require all eight

FSSs, and two CAPE H RORO ships. Based on the assumption 2 days are required to load a ship, a division cannot outload within the 6-day requirement. Because the Two CAPE H-class RORO ships must also berth at the two FSS berths, a division can outload from the Port of Beaumont in about 10 days. Furthermore, load planning assumptions must add another day to vessel loading and sailing time to take into account time-in-port factors such as piloting, docking procedures, tides and weather, bunkering operations, receiving ships stores, vessel maintenance, and cast-off procedures. MTMC-TEA suggests adding 1 day to vessel loading and unloading time for this purpose, in which case 10 ships using 2 berths would require more than 10 days, perhaps as many as 20 days with the right combination of weather or labor or equipment delays, especially at port of Beaumont which has a commercial channel to negotiate which can be fogged in very often.<sup>30</sup>

Although the MARAD Planning Orders Digest assigns 28 acres as the requirement for staging a mechanized division at Port of Beaumont, the ASMP study revealed a requirement for 32 acres. Port of Beaumont, then, is deficient in staging area to handle a full division deployment, given it currently has 28 acres of staging space.<sup>31</sup>

From Port of Beaumont, the primary port of embarkation for III Corps, to Pusan, Korea, the primary port of debarkation for a Major Theater War on the Korean Peninsula, is 10,492 nautical miles, utilizing the Panama Canal which takes an average of 16 hours to transit. At the fast cruising speed of the FSS, which is 27 knots, vessels can reach Korea from the U.S. Gulf Coast in 17 days 8 hours. For LMSRs, which are expected to cruise at 24 knots, the time would be 18 days 3 hours.<sup>32</sup>

Can two heavy divisions arrive in-theater from CONUS by C+30? Given the

capacity of Fort Hood and the capacity of Fort Hood's seaport of embarkation, Beaumont, Texas, the answer is no. The ASMP requirement is to deploy a division by C+6; however, the port's capacity will only support a C+10 (or more) deployment. As stated above, the initial two FSS-class vessels loading at Beaumont can reach the port of Pusan in 17 days 8 hours. FSS-class vessels take an average of 3 days to discharge. While this suggests a "close fit", it is still outside ASMP deployment guidelines given the fact that if the loading time took 10 days for FSSs/LMSRs and CAPE H-class vessels, it would take 10 days to offload if space were available. Further, the requirement is for two divisions and the deployment timelines certainly could not be met if both divisions originated at Fort Hood. Postulating deployment of divisions from Fort Campbell or Fort Stewart still would be outside the timeline given the problem of port of debarkation capacity to handle large volumes of FSS or LMSR simultaneously. Additional time is required to bring the ships to operating status (up to 96 hours for FSSs) and bring the ships to the port of embarkation if they are not ported there or are on another operational mission.

Can the other two divisions, the remainder of the Corps, and the Corps Support Command close by C+75? Absolutely not. The remainder of the Corps would have to rely on vessels assigned from the National Defense Reserve Fleet (NDRF) and Ready Reserve Force (RRF). Although the NDRF contains 116 vessels of which 78 are part of the RRF with heightened states of readiness that can be broken out in 4, 5, 10, 20, or 30 days, these older, slower vessels would take time to reach deployment ports and their load times and transit times are generally slower in days than the FSS or LMSRs are and

they carry much less square footage of cargo, i.e. more ships needed against limited port capacities.<sup>33</sup>

### **PORt TO PORT/PORT OF DEBARKATION**

The primary seaport of debarkation for the Korean major theater war is the port of Pusan. The Port of Pusan is on the southeast coast of South Korea about 250 miles (over 400 kilometers) southeast of Seoul and 60 miles (100 kilometers) south of Pohang.

Providing a major gateway to Asia, the Port of Pusan is the largest port in Korea and consistently ranks in the top five (currently fourth) in the world in container traffic. The mountains and islands surrounding the port provide a natural harbor. Having a deep water draft, the port can handle ships with water drafts up to about 46 feet (14 meters).

The tidal variation is about 3 feet.

The Port of Pusan is a multicargo port capable of breakbulk, RORO, container, and barge operations. It specializes in handling containers. The port has many wharves and piers capable of supporting military operations. The Port of Pusan is a viable port for supporting deployment of an Army heavy division, provided 50 percent of the Jaesungdae and Shinsundae Container Terminals are available for US military deployments.<sup>34</sup>

Pusan is an excellent port of debarkation capable of handling FSS and LMSR simultaneously from either Jaesungdae Pier 5, Shinsundae, or the new Kamman-dong piers. There are over 26 other berths in north harbor Pusan alone that can handle smaller size vessels. The problem with Pusan, then, is not port capacity so much as it is port

clearance (see RSO&I below).

The primary port in Saudi Arabia is Damman. This world class port handled the build up of coalition forces for Desert Shield and Desert Storm with few problems. The port has 39 berths handling roll-on/roll-off, container, and breakbulk cargo. The port depth is a maximum of 46 feet, capable of handling the deepest draft vessels. The port has a short ton throughput rate of 89,519.<sup>35</sup>

### **PORt TO PORT/AIRLIFT**

Strategic airlift falls under the purview of U.S. Transportation Command's Air Mobility Command (AMC). AMC maintains the aircraft that give the United States the premier capability in the world to project power through use of several different airframes and programs.<sup>36</sup> However, airlift is also the transportation mode of choice anytime a quick response is called for, and, given the high operating tempo of the armed forces since Desert Shield, the aircraft fleet is suffering from "exhaustion."<sup>37</sup>

Aside from USTRANSCOMs Air Mobility Command assets listed above, there is also the Civil Reserve Air Fleet (CRAF) as a contributor to strategic deployment by airlift. The CRAF program permits civilian commercial airlines to voluntarily provide airlift assets when called upon rather than face nationalization of assets in time of war. The CRAF participants, given incentives such as peacetime government contracts, provide a percent of their fleet when CRAF is activated. When fully mobilized, the CRAF program provides over 50 percent of total airlift capacity, with 32 percent of the cargo capacity and 92 percent of the passenger capacity.<sup>38</sup>

There are three stages to CRAF, with each stage adding more airlift. Stage one

has 37 passenger and 39 cargo aircraft. Stage Two has 112 passenger and 102 cargo aircraft. Stage Three, called during “national emergency” has 188 passenger and 170 cargo aircraft. Once notified the carriers must be at a specified loading site within 24 hours.<sup>39</sup>

Despite the success of CRAF during Desert Shield/Desert Storm (the only time in CRAFs history that it was activated to Stage Two), CRAF still has its limitations. CRAF cannot haul outsize equipment. Commercial palletized cargo but the equipment is not compatible with that used by AMC, which would cause problems during preparation for deployment. Also, commercial aircraft do not possess or require a capability to land on unimproved airfields. And, too, there has been a reluctance to enroll aircraft in CRAF in the wake of Desert Shield/Desert Storm, given the fact that it was not profitable for them.<sup>40</sup>

Finally, the Mobility Requirements Study determined that the airlift requirement to meet deployment timelines to one Major Theater War was 57 million ton miles. The current AMC fleet with CRAF can move 49 million ton miles, i.e. 210 CRAF wide-body aircraft are required but there are only 128 currently enrolled.<sup>41</sup>

The operational profile of the Air Mobility Command Fleet gives rise for concern regarding the efficacy of relying on the fleet. At any given time, only 85 of the C-141s are fully operational, with 15 in the Air National Guard and Air Force Reserve and 10 serving as trainers at Altus Air Force Base, Oklahoma, leaving only 60 aircraft for daily mission support.<sup>42</sup>

The C-5 fleet is also operationally questionable. The 118 aircraft in the fleet

average 65 percent mission capable rate. The C-5 is the aircraft of choice for moving overdimensional cargo such as Patriot air defense missile batteries.<sup>43</sup>

A look at deployment requirements reveals a sobering picture. An Airborne Division deployment, moving strictly by air, requires 1098 C-141 sorties and 46 C-5 sorties, which moves unit cargo and 5,252 passengers. The 7,990 residual passengers would move via CRAF commercial airliner, requiring 23 B-747 equivalents given 360 passengers per aircraft. If the Airborne Division has to close by C+12, per the ASMP timelines, into a major theater war region, using available airlift, the Division cannot reach its goal. Indeed, using a C-141/C-17 mix, it is still problematic whether the division could close in 12 days. It takes 1101 C-141 sorties and 78 C-17 sorties with 7875 residual pax flying on 22 B-747 equivalents.<sup>44</sup>

CRAF has limitations and is not a panacea for those that would attempt to “contract” away the war. Additionally, flying that distance would require an intermediate staging base for crew changes and aerial refueling, all of which takes time. For safety reasons, the Air Force limits airlift aircrews in normal operations to 16 hours per day, 125 hours each 30-day period, and 330 hours each 90-day period. These limits can be adjusted to support crises, such as Desert Shield/Desert Storm, when AMC raised to limits to 18, 150, and 400 hours respectively. Given that a typical sortie from CONUS to a major theater war region would take 7 hours flying time and 3 hours pre- and post-mission activities to an intermediate staging base in Europe or Hawaii, and then 7 more hours into theater and back out, the crews would be well within the 18-hour day limits, if a total of four crews were used for the various legs to and from theater. However, in the event a in-theater staging base cannot be used, as was the case in Desert Shield/Desert

Storm, crew rest becomes a significant problem, i.e. because no in-theater staging base could be used in Saudi Arabia, the crew duty day elevated to 20-24 hours and forced AMC to use augmented crews (using three pilots per plane rather than two) to bring the plane out of theater. This becomes a significant problem after about three weeks of operation depending upon callup of reserves and pilot availability.<sup>45</sup>

Can the lead brigade “be on the ground by C+4 or N+96? According to the review of base capabilities of Fort Bragg and Pope Air Force Base, by Military Traffic Management Command Transportation Engineering Agency, the answer is no. With existing facilities, the completed deployment time is N+146 while the ASMP requirement is N+96. It is reasonable then to claim that the lead division by C+12 is also a requirement that cannot be met, given the deployment problems of the installations involved.

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## **RECEPTION, STAGING, ONWARD MOVEMENT, AND INTEGRATION/PORT TO TACTICAL ASSEMBLY AREA (TAA)**

Field Marshall A.C.P. Wavell said, during World War II, "The more I see of war, the more I realize how it all depends on administration and transportation...It takes little skill or imagination to see where you would like your army to be and when; it takes much knowledge and hard work to know where you can place your forces and whether you can maintain them there."<sup>47</sup> In essence, his statement captures the challenge of the emerging doctrine of Reception, Staging, Onward Movement, and Integration. Emerging because it is only recently that the Army began to formalize the process as doctrine although it has been an age old problem.

Eight years ago, it took 205 days to deploy the force for Desert Storm. Saudi Arabia had the best ports in the world to receive U.S. -style power projection, and the forces were deployed into a benign environment. The average time spent in staging areas was 9 days.<sup>48</sup>

Given that improvements to the deployment system, i.e. with C-17, LMSR, and other ASMP initiatives that improve infrastructure will increase the lift capability by 126 percent, movement of forces should move closer to the mark than the current analysis of 120 days, the figure USTRANSCOM planners use. However, the traditional problem during power projection has been throughput of personnel, equipment, and supplies. Therefore, although the U.S. will enjoy a marked increase in ability to lift and deploy by the year 2000, that only serves to highlight the importance of RSO&I. Enhanced strategic lift means the personnel and equipment will arrive faster, presenting the RSO&I

nodes with significant problems if they are not prepared or if their facilities are deficient.

Indeed, the last operational deployment suffered a flawed RSO&I system. One of the early force tailoring decisions made during Operation Joint Endeavor was the decision to significantly reduce the Reception, Staging, Onward Movement, and Integration forces from the initial flow. This decision, though made to move up the Lines-Of-Communication opening package (force protection, Sava bridge construction, Main Supply Route opening equipment), significantly reduced the ability of the Task Force to receive and stage units as they came out of the strategic pipeline in Zupanja. Therefore, it was difficult for the Task Force to initially provide life support and regain unit integrity in TAA Harmon prior to crossing the Sava River in to the area of operations. Further, since the majority of the Task Force arrived without its Main- and Forward-Support Battalions, had the Task Force been required to transition to combat operations, its combat effectiveness would have been severely reduced.<sup>49</sup>

The process of reception is the first and most critical stage of RSOI. It marks the end of the strategic leg of deployment and the beginning of the operational employment of forces.

Reception is defined as the process of unloading personnel and equipment from strategic or operational transport, marshaling, local area transport (if available and required), and providing life support to the deploying personnel. Critical to the success of reception is space in the seaport of debarkation and airport of debarkation as well as labor and equipment to discharge the ships and planes and clear the ports.<sup>50</sup> By command decision, initial deployment to Desert Shield in August and September, 1990

were front-loaded with combat forces. Thus, the leading deploying units had little or no RSO&I support. Troops of the 82nd Airborne Division arrived in Saudi Arabia on 8 August, but without RSO&I support, they were unable to move to their battle position until 23 August, 15 days later.<sup>51</sup>

The problem becomes one of magnitude as surge sealift begins to arrive. Surge sealift can begin arriving in a Major Theater War on or about C+24. Surge sealift can bring between 20 and 30 ships on berth (if the port can accommodate that many) simultaneously deploying two heavy divisions and elements of others as well as the combat and combat service support.

Staging is defined as the process of assembling, holding, and organizing arriving personnel and equipment into units and forces, incrementally building combat power and preparing units for onward movement; providing life support for the personnel until the unit becomes self-sustaining. The major challenge for staging is the requirement for vast amounts of space which may or may not be available, e.g. staging the Army Prepositioned Afloat-3 Heavy Brigade requires 47 acres of open space.<sup>52</sup>

Onward Movement is the process of moving units and accompanying materiel from reception facilities and/or marshaling or staging areas to tactical assembly areas (TAAs) or other theater destinations; moving arriving non-unit personnel to gaining commands and moving arriving sustainment materiel from reception facilities to distribution sites.<sup>53</sup>

Integration is the process of synchronized transfer of authority over units and forces to a designated component or functional commander for employment in the theater of operations.<sup>54</sup> Korea provides an excellent example of the onward movement

challenge. From the major port facility at Pusan, to the Tactical Assembly Areas south of Seoul is a distance of 180 miles. The primary Main Supply Route from Pusan to Seoul includes 176 bridges and 11 tunnels, many of which cannot be bypassed.<sup>55</sup> These represent chokepoints that would certainly be targeted by North Korean special forces or agents, and, although the LOCs are secured by South Korean Army elements, the destruction of any one of the could represent a significant delay in moving units from the port.

### **Conclusion/Future Implications**

The U.S. Army cannot attain it's stated power projection strategy, as outlined in the Mobility Requirements Study, that demands the deployment of a corps of five divisions that is tailorabile, sustainable, and with airborne vertical insertion capability in 75 days. Given current and expected near future capabilities, the closest the Army can come to a corps deployment timeline is 110 days ( a CASCOM estimate for a Major Theater War in Southwest Asia) and 120 days (a USFK estimate for a Major Theater War in Northeast Asia. While steps are being taken to improve power projection capability, through the introduction of the Large Medium Speed Roll-On/Roll-Off vessel, the Globemaster III C-17 strategic airlift aircraft, and the Army Strategic Mobility Program, none of these programs will make it possible for the Army to realize it's strategic power projection goal of moving 5 and 1/3 divisions into a major theater war region in 75 days.

Analysis has revealed significant shortfalls not only in the USTRANSCOM strategic mobility triad of airlift, sealift, and prepositioning, but also in infrastructure of

power projection platforms.

Although the C-17 is being procured, the fleet, which will eventually number 120 although currently is 21, does not replicate the capabilities of the retiring C-141 fleet, e.g. in pallet positions, the C-141 represented 2,750 (in 1992), while the C-17 represents only 1,750 pallet positions in 2007 (and the C-141 fleet is completely retired by 2003). So the new fleet will be less capable than the current one, and, although the C-17 can carry significantly more weight than the C-141, there will be a reduction of flexibility given the lesser number of C-17s that will be available.

Finally, the Mobility Requirements Study calls for the airlift fleet to be able to execute 49.7 million ton miles per day of lift; however, with CRAF III activated the entire fleet can only manage 46.3 million ton miles per day, or, in other words, cannot match the MRS requirement by over 3 million ton miles per day.<sup>56</sup>

The same problem afflicts the sealift fleet. At the end of the procurement of LMSRs (in 2001), there will be a 500,000 square foot shortfall against the MRS requirement of 10 million square feet of lift. This shortfall represents the lift available in two to four notional ships.<sup>57</sup>

Infrastructure is a tremendous problem currently; however, with the \$417 million Army Strategic Mobility Fund investment to year 2001, significant strides should have been taken to improve Army power projection platform capability. Additionally, \$85 million is being invested from Mobility Enhancement Funds for infrastructure and related logistical support at various power projection platforms.<sup>58</sup> As was pointed out above, these improvements, spread out as they are among all the power projection platforms, may not equate to those platforms being able to reach their

mandated MRS deployment requirements.

In the final analysis, the mobility requirement reveals that the nation has a “single war” mobility force supporting a two war strategy, and, despite the fact that improvements are being made, they are not enough for the Army to declare success with it’s MRS-mandated 75 day deployment timeline.

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